

Abstract

With a capacitor C inserted in an interstage portion of multiple stages of amplifier circuits, a high pass filter is generated by the capacitor C and an input impedance $|Z|$ of an amplifier circuit in the next stage. Accordingly, frequency components lower than a cutoff frequency f_c are cut off, and therefore are not transferred to the subsequent stage. However, radio frequency components higher than or equal to a fundamental wave component determined by an envelope of a radio frequency signal intermittently transmitted can be transferred. Consequently, transfer of DC offset potentials can be cut off, and noise, such as flicker noise, having great power in a DC or near-DC zone can be effectively cut off. Thereby, the S/N ratio, detection sensitivity, and detection accuracy can be improved.